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| 10/790,269 | 03/02/2004 | Masayasu Shimakage | 023971-0384 | 3081 |
| 22428 | 7590 | 08/09/2005 | EXAMINER | |
| FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007 | | | LABBEES, EDNY | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2632 | |

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/790,269

Applicant(s)

SHIMAKAGE, MASAYASU

Examiner

Edny Labbees

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7,8,10 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 2,5,6,9 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/26/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3, the claimed limitation recites, "...suppressed as the non-detection frequency of the lane defining line increases." in Lns 5-6. It would be unclear to one having ordinary skill in the art to understand what the claims are describing.

Regarding claim 4, the claimed limitation recites, "... increases a change quantity of an anticipated deviation time as the non-detection frequency of the lane defining lines increases." Lns 2-5. It would be unclear to one having ordinary skill in the art to understand what the claim is describing.

3. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 8, the phrase "capable of" renders the claim indefinite because it is unclear whether the limitations following the phrase actually performs the function associated with the limitation.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim 1 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Forbes et al. (US 6,894,606).

Regarding Claim 1, Forbes et al. teaches *Vehicular Black Box Monitoring System* that has the following claimed subject matters:

The claimed lane defining line detecting section that detects a lane defining line is met by two cameras 102,104 which looks down on the roadway and detects the lane defining lines, see Col. 3, Lns 50-57; claimed criteria changing section that changes a criteria for determining a lane deviating tendency on the basis of a detecting condition of

the lane defining line is met by the black box 114 which is arranged to record any variance, drifting or swerving of the host vehicle with respect to the lane defining line when it is detected by the cameras, see Col. 4, Lns 65-67 and Col. 5, Lns 1-7.

Regarding Claim 14, the claim is interpreted and rejected as claim 1 stated above.

6. Claim 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawazoe (US 6,748,302).

Regarding Claim 12, Kawazoe teaches *Lane Tracking Control System For Vehicle* that has the following claimed subject matters:

The claimed controller is met by controller 3, see Fig.1. Claimed detecting a lane defining line of a lane is met by detects and recognizes the lane markers, see Col.3, line 25; claimed changing a decision criteria for determining a lane deviation tendency of the host vehicle on the basis of detecting the condition of the lane defining line is met by detects a lane departure condition of the vehicle VE, see Fig.1 and Col.3 Lns 28-29; and the alarm generation by comparing the relationship between the host vehicle and the lane defining line is met by an alarm 6 which is generated by comparing the yaw rate with the threshold yaw rate, see Col. 4, Lns 4-18.

Regarding Claim 13, it is a method claim corresponding to the apparatus of claim 12, and is therefore rejected for the similar reasons set forth in the rejection of claim 12.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes et al. (US 6,894,606) in view of Matsumoto et al. (US 6,732,021).

Regarding Claim 8, see above rejection in reference to Claim 1. Forbes does not disclose varying a setting of image picking-up condition according to the image picking-up environment. However Matsumoto teaches *Lane-Keep Control System For Vehicle* that includes a CCD camera 13 and a camera controller 14 which is used for detecting lane markers of the traveling lane from an image picture indicative of the area ahead of the host vehicle, see Col. 3, Lns 52-54; a camera controller 14 when the detection of the lane markers are not defined due to weather factors such as snowing, see Col. 3, Lns 61-63; and a weather factor such as snowing, the parameters such as yaw angle, lateral displacement, curvature and width are set to zero, see Col. 3, Lns 60-65. Therefore it would have been obvious to one of ordinary skill in the art at the time of the

invention was made to incorporate the teachings of Matsumoto into the system of Forbes to vary the parameters of the camera controller 14 due to the weather factor after the image is taken.

Regarding Claim 10, see above rejection in reference to Claim 1. Forbes does not disclose the criteria changing section decreasing an anticipated deviation time as the non-detection frequency of the lane defining line increases. However Matsumoto teaches *Lane-Keep Control System For Vehicle* that includes a control unit 8 where it determines that there is a possibility that the host vehicle deviates or has a tendency to deviate based on calculating the deviation estimate XS to see if the deviation time is greater than or equal to the lateral-displacement limit value, see Col. 4, Lns 66-67 and Col. 5, Lns 1-8. Although Matsumoto does not specifically teach the claimed device in which the control unit 8 calculates the deviation estimate to see if the deviation time is less than or equal to the lateral-displacement limit value; Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teachings of Matsumoto into the system of Forbes so that the non-detection frequency of the lane defining line increases when the criteria changing section decreases and determine that the host vehicle will not deviate the traveling lane when the control unit calculates the deviation time to be less than or equal to the lateral-displacement limit value.

Allowable Subject Matter

9. Claims 2, 5-7,9 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Satoh et al. *Lane-Keep Assisting System For Vehicle* (US 6,489,887)

Jindo et al. *Vehicle Traveling Control System* (US 6,665,603)

Litkouhi et al. *Audible Warning for Vehicle Safety Systems* (US 6,876,298)

Kuhn et al. *Acoustic Sensor System For Vehicle Detection And Multi-lane Highway Monitoring* (US 5,798,983)

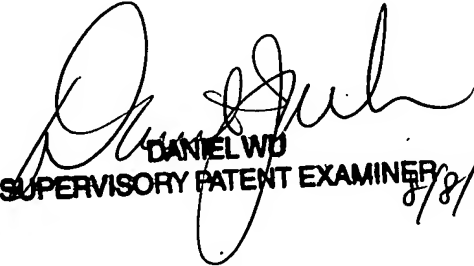
Bush *Vehicle In-Lane Positional Indication/control By Phase Detectin of RF Signals Induced In Completely-Passive Resonant-Loop Circuits Buried Along A Road Lane* (US 5,708,427)

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edny Labbees whose telephone number is (571) 272-2793. The examiner can normally be reached on M-F: 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel J. Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edny Labbees
8/04/2005


DANIEL WU
SUPERVISORY PATENT EXAMINER
8/8/05